

Independent Review Panel  
Meeting to Review Technical Memorandum #4  
Update to the Comprehensive  
Floodplain and Stormwater Utility Master Plan  
Thursday, October 30  
Meeting Notes

Attending: Ken Wright, Gilbert White, Mary Fran Myers, Scott Randall, Alan Taylor, Bob Harberg, Brian Hyde, Scott Tucker and Molly Tayer

BACKGROUND FROM CRG DISCUSSION

The meeting opened with a quick overview of the issues discussed during the Citizen Review Group (CRG) review meeting that brought out a bit of opposition and challenge from some of the CRG members. Molly related that the issues of proposed regulations for land use in the 500-year flood plain and the proposed risk assessment process engendered a heightened level of concern on the part of members of the CRG from the business and development communities. Molly also related that there was some challenge from one CRG member who asked pointedly about staff's reference of "trends" toward more aspects of protective land use as indicated by the state flood plain manager's assn.

After a quick introduction of the topics of the final tech memo, Bob Harberg opened the presentation by outlining the city's historic and proposed programming for physical floodway mitigation and property acquisition.

Bob indicated that the city has removed 134 props from the floodplain during the past decade.

Ken Wright noted that this is a great achievement and the city should promote this information, as well as the \$1M in the reserve fund. Brian Hyde seconded and said no other Colorado community has been able to do this.

Bob went on to explain that construction money for flood mitigation represents over 50% of the program expenditures.

The program expenditures today:

Construc: \$1,438,000 30%  
Prop acquis: \$1,078,000 23% of funding  
(Salaries not shown)

Bob explained that there have been questions raised about the when structural mitigation is used; and whether the city's process is oriented to control floods with structural drainageway projects.

In Bob's presentation, the next program overview slide stated that there is a "trend/movement" to preserve floodplain areas to accommodate floods –

Staff spoke to the reaction this comment caused in the CRG meeting. During the recent review discussion, one CRG member was skeptical and wanted to see more source information for this statement. He felt that the movement may exist among the collegial environment of local government floodplain managers, but not enjoy a broader base of support across a number of audiences.

IRP members expressed that, from their experience, this is rapidly becoming national policy as identified by the Army Corps of Engineers in recent publications. Gilbert stated that the trend, as stated, is linked to the 1993 floods.

Ken Wright queried if the decision might be summed up as a decision between preserving land because of its value, or buying people out of their ownership in these area after the flood...

### ***Consideration #1***

*"Balance constructed flood mitigation projects (based on life safety and property damage) and acquisition of property, along with removal of associated structures for long term floodplain management."*

Bob identified that the question comes down to decisions considering how best to apply pre-flood dollars.

Scott Tucker stated that the city sends letters every year to tell people in High Hazard Zone (HHZ) that you will buy their properties, and wondered how often people take them up on the offer?

Gilbert asked if there is a difference in the property value if you buy after the flood.

The group discussed the difficulties with property acquisition schemes.

### ***Consideration #2***

*Recommends Floodplain Risk Assessment*

*Risk Assessment should be developed and used to identify and quantify life safety and property danger results.*

These plans could be performed as updates to plans for construction.

Flood mitigation projects and property acquisition should closely follow updates to flood plain mapping and associated risk assessment.

City has the Love priority list and has already identified a lot of properties to be acquired and removed.

Ken Wright added that the city has an obligation to do so.

Mary Fran Myers asked if there is an acquisition list, or strategy, by drainageway?

Bob Harberg responded that the city does acquisition as property and money is available.

Mary Fran asked if Gold Run or University Family Housing was on the list. Bob responded that they are not.

The group discussed the Fourmile evaluation and the current attempt to determine how to floodproof properties in this drainageway. IRP members stressed the floodproofing education is a critical component to get into place.

Staff and IRP members identified that it might help if there were grants to do floodproofing. The group discussed how areas for this application may be determined and trade offs to consider.

Gilbert stated that the system (FEMA?) is opposed to giving information about floodproofing. The managers want to do property damage assessment, and this is used to justify other expenditures.

Gilbert said he felt there is a prejudice against floodproofing as a practice.

Alan Taylor asked if this is because the Federal Government does not recognize floodproofing as a remedy.

Gilbert said that this is probably one reason that the information is not promoted.

Alan went on to say that there is a problem with flood insurance factors and floodproofing.

Gilbert said that FEMA has opposed floodproof, and spoke to the Floodproofing Conference held and his understanding that other floodplain experts are getting involved in developing application information.

Brian offered that any need for (floodplain) intervention depends upon the given situation and is specific for areas where there are properties that will not be removed. Perhaps in areas where there are levees, and there is a liability when they fail...

Gilbert stated that we assume some flood proofing needs to be appropriate to accommodate an anticipated level of flooding. He also commented that the adequacy and potential for flood proofing and education/warning should be accounted for in decisions regarding property acquisition.

Bob Harberg said that there are some areas where floodproofing does not make sense, and he would want to consider a multi-prong approach, that includes floodproofing and flood warning systems, and coupled with an acquisition plan.

### ***Consideration #3***

*Continued use of the Love priority list*

No discussion noted.

### ***Consideration #4***

*Can money in the post-flood recovery fund be used to leverage state federal disaster relief funds?*

And could the money be used to affect the potential amount of property we could reasonably acquire, given various flood scenarios.

Ken Wright wondered if the \$1 million could be invested to make money.

Bob said it is gaining interest, but that the excess money goes back into the Utility Fund.

Brian Hyde asked if staff expects the number of properties in the acquisition list – 140- to go up. Bob replied that it could, depending on what happens on South Boulder Creek.

Scott Tucker reminded the staff that they are unable to get enough money to do what you can, without lots of people wondering why you are sitting on so much money. He wondered about the interest if staff sought out more? The group discussion suggested that it is unknown what the ‘magic balance’ for fund balance might be.

## **FLOOD PREPAREDNESS**

Alan Taylor presented slides on the city’s programming toward flood preparedness.

Alan listed for the IRP the various tools and supports the flood preparedness program. Alan stated that it boils down to a need for additional money to accomplish some identified program goals.

Money needed to:

- Add gauges – plains and the city
- Auto flood threat recognition
- Flood level inundation mapping
  - Reflect forecast, real time consideration
- Improved coordination train with EMO
  - Expand downtown monitoring
- Enhanced equip – EMO

Alan also detailed the following flood warning needs:

- Improve understanding of demographics, preferred local residents preferred method for contact
- Public education – increased flood awareness
- Better understanding of what people will do in the event of a flood

## Multiple points of warning Flood response plan

Mary Fran suggested that this looks like a plan for warning individuals and wanted to know who makes decision to close bridges, when to evacuate neighborhoods? Who has this plan?

Alan and Bob explained that they both have assigned duties under the City's Emergency Response plan, which operates under Larry Stern's guidance. The plan categorizes response needs by mode. The mode plan outlines what staff should be doing in each mode.

Staff acknowledged that the system needs some upgrade. Areas where information may be lacking includes information for city employees during and AFTER work; response plan for citizen activities, assuming that people will be out doing things at time of storm/flood.

Scott Randall asked if there is a schedule for when the Manual was updated. The discussion included recommendations that it needs to be done every year. And during this process, it would be good to consider how to include a citizen response plan.

Alan then moved into a listing of Flood Recovery Needs—  
(list from slide)

Bob Harberg stated that they still need to integrate new information from recent studies that have been made available, such as Eve Grundfest's study

Gilbert asked what staff learned from Eve's work? Bob thought that they got good information on identifying ways of notifying the affected residents. Alan added that we have more information about what demographics tell us. For instance, we have information that demonstrates that many people are confused by the siren system. What are the sirens trying to indicate? Flood? Tornado? Need to address this confusion.

Mary Fran noted that the reverse 911 worked during the fires.

Gilbert pointed out that the University is doing a good job educating students for emergency response. Probably better than city does with citizens.

## **FLOOD EDUCATION AND INSURANCE**

The group discussed programmatic needs for Public Education and Insurance

Brian Hyde said that he would advise that they create transportation guidance and information so that people know that they can be killed in your car. Gilbert added that in Texas, the main loss of lives during a flood is people in cars.

Alan identified the following Flood Educational activity needs:

- Website improvements
- Improve community outreach and opportunities for public feedback
- Direct citizen access to flood information: records, mapping, permits
- Identified point-of-contact: flood preparedness office
- Adequate resources
- Incentive program for flood proofing and individual protect measures

In reviewing the city's Flood Insurance program information, the CRS, Ken Wright expressed his astonishment that Boulder's rating is so bad!

Alan identified that Boulder is class 8, which allows for 10% reduction in Flood insurance premiums. Alan said he is trying so hard to provide action steps and programs to affect the ratings, and nothing works. Form his experience, the best way to improve ratings – have a flood.

Under Repetitive losses, there is more credit for buying ten properties, and then no credit when you have bought more then a % of the floodplain. The City of Boulder has 40k acres of open space – preventative measure – yet there is no credit in CFS for preserved floodplain.

Brian suggested that Alan get in touch with French Wetmore, the person who created the system, and tell him of your plight. Brian suggests that Alan talk to him about what Boulder has done and get his reaction. See what he thinks you should get credit for.

Alan noted that Fort Collins gets a lot more credit for doing the same stuff that Boulder is doing, but because they have had a flood, they are getting credit under advanced rankings in the rating system.

Flood Insurance needs identified in the presentation:

- Encourage more people to buy it
- Educate public about flood insurance
- Solicit Public feedback to evaluate effectiveness
- Commit to improving CFS rating
- Develop enhanced/comprehensive internet web site
- Consider implementing local floodproofing program
- Create local contact office

Molly pointed out that during the CRG review, a member asked that we keep in mind the cost/benefit analysis to get to lower CFS rating. Concern for what the City might spend to try to achieve this and what that would actually be worth. The group noted that there is not a direct dollar savings for gains implemented.

Ken Wright asked about the city of Boulder's fire safety rating. Ken recalled that the two programs were designed to work the same way. Ideally there should be a consistent relationship.

Bob Harberg said that he thought the city's fire rating is pretty high. Bob said that the city would like to improve the rating, and we continue to presume that if we do things well... that should follow.

The group discussed if there is a comparison to be made in the "self-help" category, such as the relationship between required sprinklers in buildings, and a floodproofing program.

Gilbert White asked what the anticipated benefits of enhanced internet? Alan responded that people can get at it. There are lots of households that are wired in Boulder County.

Ken Wright asked what staff means by "local flood proofing program?" Staff replied that they intend to have something to extend to individual property owners in our jurisdiction.

Ken said he thought "consider" too soft a term. Proposal should just say "Implement a flood proofing program."

Alan said that he thinks of area on Fourmile Canyon Creek a target for floodproofing demonstration. A property like Elizabeth Black's could be very effectively flood proofed for shallow flooding. Situations like this where you could apply \$10 -15 k per property, versus millions to re-engineer the drainageway.

Ken Wright said that he thought Twomile Canyon might be much of the same case. In that case, sediment management might be enough to keep it from flooding. Ken said he thought the only life-safety threat for that stream would be in cases where nearby structures had basements.

Brian wanted to share additional thoughts on transit arteries. He said that bridges collect debris, fail in flooding. Has staff identified critical culverts and bridge areas that will be flood hazards? He also wondered if there is a list of places for people in the HHZ to go.

Alan Taylor offered that part of a Risk Assessment planning process is to set this up. To create response and recovery plan and where to go information; what is the best thing to do first guidance.

Gilbert reminded Alan that he feels that the new hospital access is problematic.

The group identified that clear and effective communication is huge need. That traffic will be a big issue for community safety as people are trying to move away from flooding. The group asked, with 13 creek ways, if we had catastrophic storm... where

would you people be directed to go. This highlights that the Police and flood agencies need a response plan, and we need to educate the public of this plan.

Mary Fran pointed out to IRP members that this is all stuff we have been asking for. Where are the Educational materials and when are they to be created? She also noted that there is no “floodplain” link on the city web.

Brain asked if staff has had a chance to look at the Fort Collins plan? Floodproofing program is in place. They have created a lot of this stuff already – go borrow! Staff indicated that they do not have the resources to go do this.

Molly reminded the staff of the CRG’s comment regarding “equity.” How does the city/community decide when to rework the drainageway and take people in area out of harms way, or when to do small scale fixes?

Bob said he is hearing it from adjacent neighborhoods. People on northern creeks see the work done on Bear Creek and Goose and say “we want ours done”

Alan Taylor told the story of mitigation work done on Boulder Creek, where the city acquired 13 properties, expanded the floodway, and this was at the same cost estimated to develop a trapezoidal drainageway.

Bob asked if anyone had any advice on how to prioritize life-safety interest vs. property drainage interest for the 134 structures still in the HHZ?

Ken offered that he could put the 134 properties into a special category? Provide this list with some form of “Special treatment”

Scott Tucker indicated that telling these people every year that you will buy their property may equal special treatment. All members indicated that at least they should be given special educational tools and procedures for evacuation. Might call this a “Worry list”

Marty Fran asked if staff thought that the City Attorney might have issue with liability – if staff was recommending a specific remedy in HHZ.

Ken wondered if staff would put flood proof money into HHZ structures. Bob replied that he would not. Only floodproof in slow, distributed flows areas. The city does not want to preserve flood plain occupancy in the HHZ.

Brian asked if the city had maps of streets and bridges on GIS? Could these be developed to show people where they should not try to drive? Alan Taylor said that he agreed with all, but that it all requires resources.

Brian asked what resources the Utilities Division has for this program. Bob listed 2.5 FTE, and said that money could be easily reprioritized, but adding personnel is more difficult.



How do we apply same concept as that which built up the Water Conservation programming? Staff feels that they are strung out across lots of pieces of work and no real focus.

Critical structures including bridges and evacuation routes and shelters should be identified in the emergency response plan.

Brain asked if staff had enough staff to deal with a flood emergency if one happened today. Both Bob and Alan replied that they convert a lot of public safety resources if there is a storm. Lots of people in the city have been laid off, but people do come together and perform assign under mode plan.

IRP members wondered if they could retrain some added people by expand training for more staff? Staff said they would talk to Larry and see how this is built in to arrangements.

Mary Fran wanted to know when the City of Boulder would be acting on any of this. Bob said that staff will consider and compile what we have heard in this preliminary review process. Then, they will need to consider timing with other Public Works project consider the needs of educating a brand new City Council. This issue will need to get in front of WRAB and Council before we do much more work on it.

Bob said he sees the regulatory section as the biggest hurdle. How should the city address the 500-year flood plain? What to allow?

Ken replied that you do not regulate the 500-year – regulate where you have the authority to do so. Gilbert said that the information you provide people with property in the 500-year zone should be different that you provide to people in the other floodplains. Should have a special notice, a special alert process.

No one will have a problem with education information and plans, it is when we require or regulate people to do special risk analysis for the 500-year – we create concerns. For example, the Community Safety Center – fire, police, pub safety, are all in 500-year zone. Still need to have a community vetting on what is a critical facility, and develop some regulations regarding this use.

Brian suggested that the city consider not allowing basements in 500-year zone.

Other IRP members said that they felt the community won't buy it.

Scott Randal said that staff and his group heard from CRG: "no new impacts, no new costs, without a clearly detailed analysis of cost/benefit of new regulations recommended.

Ken offered that it is not our job to 2<sup>nd</sup> guess the politics. Scientific data should be forwarded to the decision-makers and they can act.

Ken said that we still need to distinguish between regulations requirements and information requirements.

Scott Tucker added in that there is not information available today that suggests regulating to the 500-year. If you say you want to regulate to the 500-year, we can't necessarily support you. Scott recommends that staff needs to, resource wise, look at what you can do with what you have.

Bob Harberg noted that we have the 500-year floodplain mapped, but we cannot do much with it.

Agreement of IRP: build a program of information regarding 500-yr event as a platform of information. Not concerned with property damage, but what about developing a 500-year HHZ? Inform people about what and where this is? Create a new zone.

Brian noted that if someone had simply watched the water levels by the RR dyke in Fort Collins, this action would have saved lives.

Scott reiterated that staff consider resource use. As you expand your area of influence, you will need more resources. You currently do not have the resources to do the identified 100-year work you need to do.

Brian said you might consider a pilot application for this area? And then add more when you can.

## **WEB INFORMATION DISPLAYED**

Comments:

Noted: Unclear headers

Alan reiterated that they need a point of contact. People need to go to the phone book and find a number info under "Flood." Get a phone number.

Gilbert wondered what percent of populations sees the web information. Staff said they would look into getting a count.

City has a designated URL for "boulderflood.com" This is still being set up.

The group was able to see a demonstration of the media player of orthophotography that takes you through visually on an Eldorado Canyon and shows the estimated water level given the topography. Staff said the tool is in limited use due to the fact that it is memory intensive.

Alan said that the city needs to develop new electronic capabilities to make more information easily accessible.

End of meeting. Plan for IRP to meet without staff in three weeks.

